

CHAPTER 1

INTRODUCTION

1.1 Background

Nowadays, in globalization era there are always the foundation of the new technologies features every year. Automatic temperature control system become the most popular features which rapidly gaining its popularity due to its importance to certain applications. This system utilizes in a room that lack of air conditioning system such as in server room and green house. The system is designed that is supposed to monitor the temperature inside a server room. In server room, the temperature is always high and unstable and human will not able to control the temperature manually. The automatic system required to control the temperature within the server room is measured by using a temperature sensor. When the current temperature is below the lower limit of the desired if it is in the first upper limit 25°C to 40°C, the server room is cooled using a fan. When the current temperature is within the desired range, no control action is needed. The current temperature of the room must be continuously displayed on the LCD. In addition the controller should use LEDs to indicate the current state of temperature in the server room.

1.2 Objective

1. To implement automatic room temperature control based on temperature sensor.
2. To implement the security system at the room based on password requirement to unlock the door.

1.3 Project Scopes

There are three scopes in this project:

1. Temperature sensor monitoring the recent value of temperature within the range
2. Fan functioning at certain level of temperature
3. Password requirement to unlock the door

1.4 Research Methodology

- i) Literature review to understand the concept and functional of the project.
- ii) Understand the whole system of hardware and software in sequences.
- iii) Design the circuit and build the programming.
- iv) Testing the system functional.
- v) Combining the both hardware and software system.

Design step of work methodology can be simplified as shown in Figure 1.1

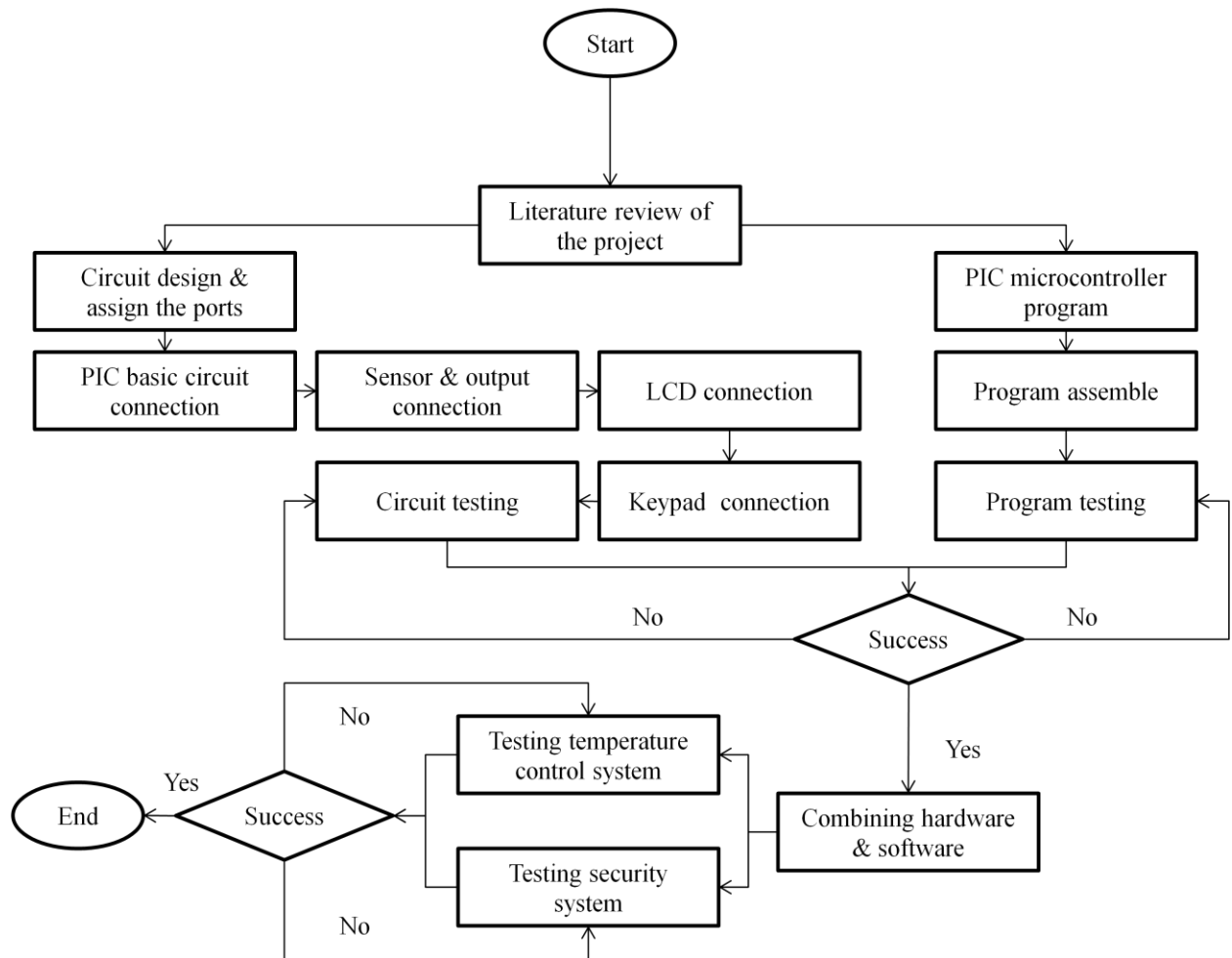


Figure 1.1: Design Flowcharts.